



Codes & Voluntary Programs

HERS and Energy Codes & Vermont Built Green

Codes Conference 2001
Burlington, Vermont

Energy Rated Homes of Vermont / VEIC



Overview

✓ HERS and its role in Vermont's Code

- History
- Linkages to other initiatives
- Opportunities for integration

✓ Vermont Built Green

- What it is
- Where it's going



History of Vermont Code

- ✓ Governor's Task Force in 1996
- ✓ Compromise approach:
 - Voluntary enforcement
 - Premium home; higher standard utility program
- ✓ Residential Building Energy Standards ("RBES") adopted 1998
 - MEC-95 plus 10%
 - HERS as compliance mechanism



Opportunities for Integration

- ✓ HERS as Code compliance
- ✓ Energy Code Assistance Center (ECAC)
- ✓ Workshops
- ✓ Conferences
- ✓ Studies, monitoring and evaluation

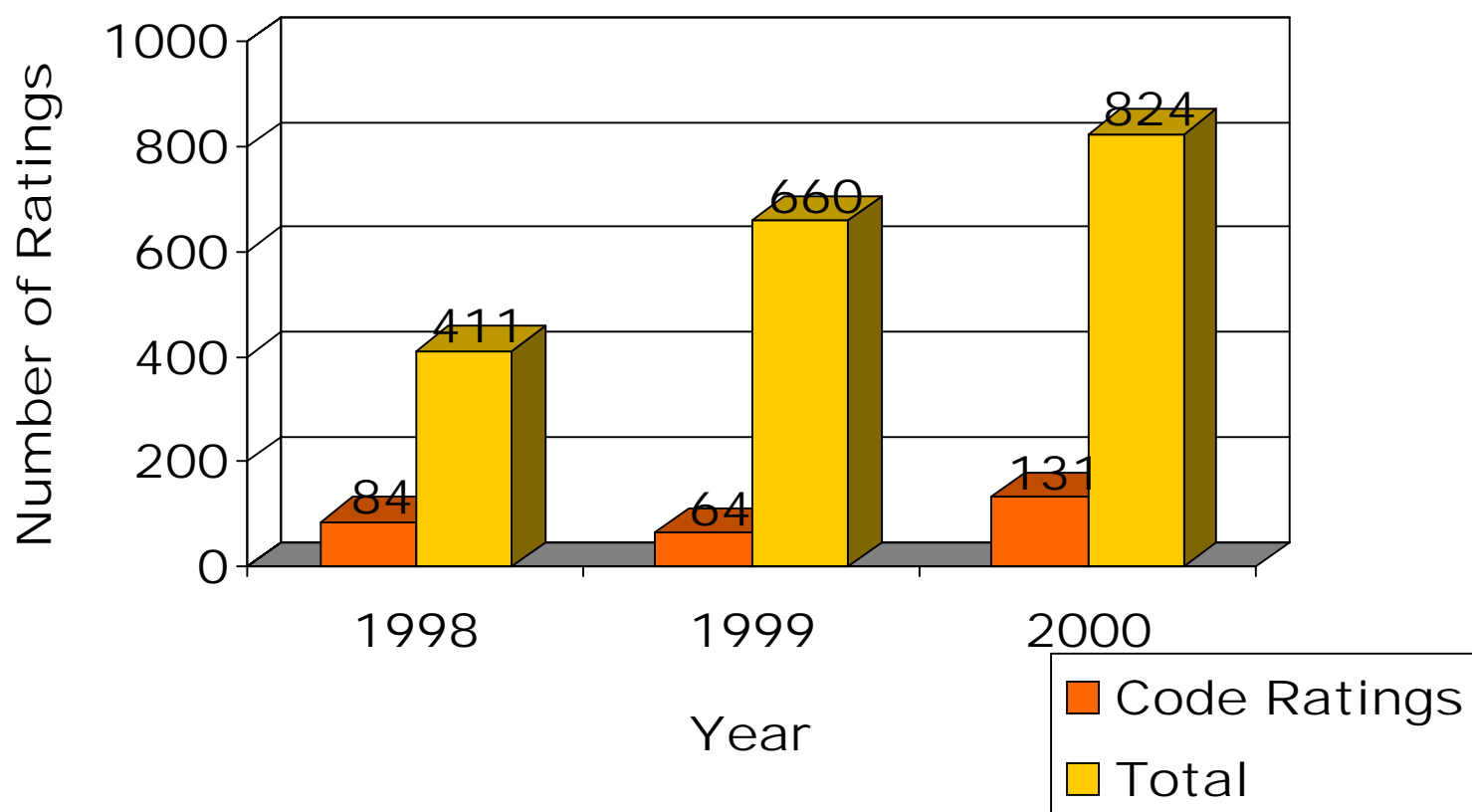


HERS for Compliance

- ✓ 82 points on the rating scale
 - Get an energy efficiency professional involved
- ✓ Rating provides credit where Code doesn't
 - Domestic hot water
 - Solar
 - Air tightness
- ✓ Developing Vermont HERS accreditation based on NASEO/RESNET standards
 - National basis for local energy professional standards



ERH-VT Rating Orders



Energy Code Assistance Center



- ✓ Toll-free hotline
- ✓ Form fulfillment and completion assistance
- ✓ Building science answers
- ✓ Contracted to develop Code compliance guidebook
- ✓ Offer outside Vermont in future?
- ✓ \$10k-\$20k/year revenue source from DOE grants through Dept. of Public Service



Workshops

- ✓ Poor attendance at prior workshops
- ✓ After initial series, lumberyards picked up sponsorship
 - Additional 18 at no cost to Code program
 - Over 800 participants in 1999
- ✓ Raters are experts and logical trainers
- ✓ Educate on Code, but promote Vermont Star and ENERGY STAR Home Programs
- ✓ Mechanical ventilation Code update opportunities in the future



Conferences

- ✓ Prior builder conferences 50 - 75
- ✓ First year attendance over 200
- ✓ Building Solutions 2001:
 - 500 attendees, 50 exhibitors
- ✓ Leveraging by combining forces:
 - By partnering with Vermont Star, \$50,000 cost Code project \$7,000
 - One-stop energy program shopping for participants

Studies, Monitoring and Evaluation



- ✓ HERS raters are experts
- ✓ Baseline study
- ✓ Ventilation field study
- ✓ Ventilation standards research
- ✓ Code compliance study



Conclusion

- ✓ Integrated approach
- ✓ Program coordination
 - Push-pull market strategy
 - Mandatory Code / voluntary ratings & programs
- ✓ Expanded focus beyond HERS & Codes:
 - Technical support for the housing industry
 - Education and research
 - Establish a professional energy infrastructure

VERMONT BUILT GREEN PROGRAM



A Building for Social
Responsibility Initiative
Promoting Sustainable
Building in Vermont



Overview

- ✓ Background
- ✓ Current Status
- ✓ Opportunities



Who is BSR?

- ✓ Builders
- ✓ Architects
- ✓ Designers
- ✓ Building energy professionals
- ✓ Waste reduction/recycling organizations
- ✓ Students
- ✓ Interested others

VEIC/ERH-VT's Involvement



- ✓ Contractor to BSR
- ✓ Grants fund administrator
- ✓ Staff
- ✓ Program delivery in future?
 - Complementary with rating programs
 - Raters are logical green building advisors



Why Green Building?

- ✓ “Sustainability” is major trend
- ✓ Comprehensive environmental approach
- ✓ More effective way to “market” energy+
 - Most people are more concerned with:
 - Quality/durability
 - Health
 - IAQ
 - Environmental protection
 - “Energy efficiency can be packaged and sold more effectively, resulting in greater program participation, when bundled with non-energy measures and benefits.” (Higgins et.al. ACEEE ‘00)



History

- ✓ “Green” rating programs have been around for 10 years
 - Austin, TX
 - NAHB NRC manual for starting programs
- ✓ USGBC’s LEED for commercial: the standard
- ✓ No residential standard
- ✓ 40+ programs currently operating or under development



VBG Development

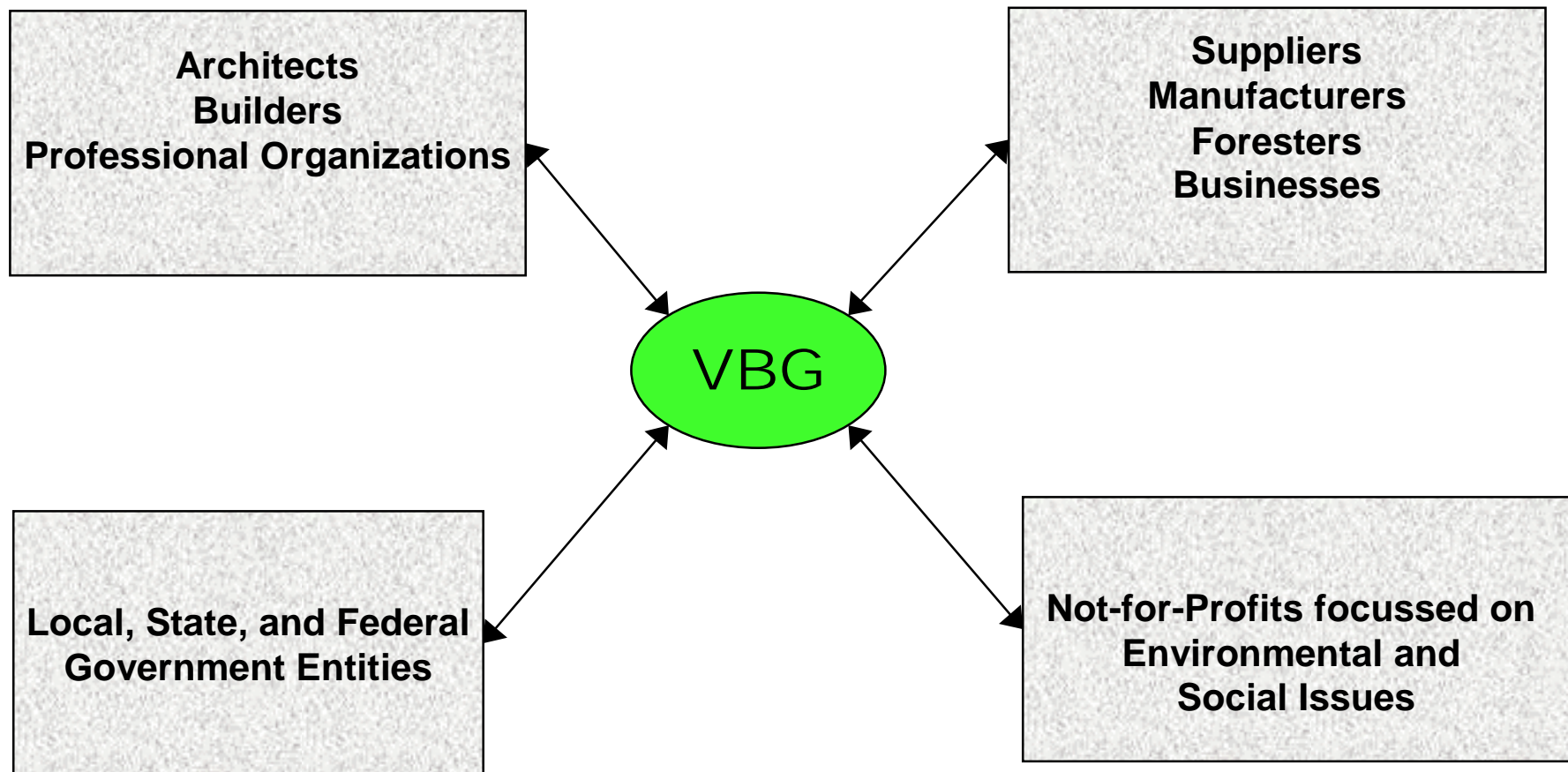
- ✓ Funding commitment early 2000
- ✓ Criteria development
 - August 2000 retreat at Vermont Law School
 - 40 local and regional green building experts
 - consensus-building approach
 - Fall 2000 v. 1.0
- ✓ Outreach/networking
- ✓ Marketing survey/focus groups
- ✓ Business plan



What is Vermont Built Green?

- ✓ A voluntary program for rating homes on “green-ness” or sustainability
 - New construction, for now
 - Existing homes if demand in the future
- ✓ Based on scorable, weighted criteria
- ✓ An umbrella program:
 - Expands scope and widens appeal from just energy to all green issues
- ✓ The next generation of energy programs

Synergies





What are the Categories?

1. Siting and land use
2. Building design
3. Quality/durability
4. Energy use (based on HERS rating)
5. Resource impacts
6. Occupant Health/Indoor Air Quality
7. Keeping it green: Occupant education and O&M



Current Opportunities

- ✓ UVM Student Housing Project
 - 400 beds
 - Required minimum of 50 points VBG
- ✓ UVM/VT State Colleges Workshops
- ✓ City of Burlington adoption of VBG
- ✓ NESEA
 - partnership
 - fundraiser
- ✓ Green Building Tax Credits (MA, NJ)

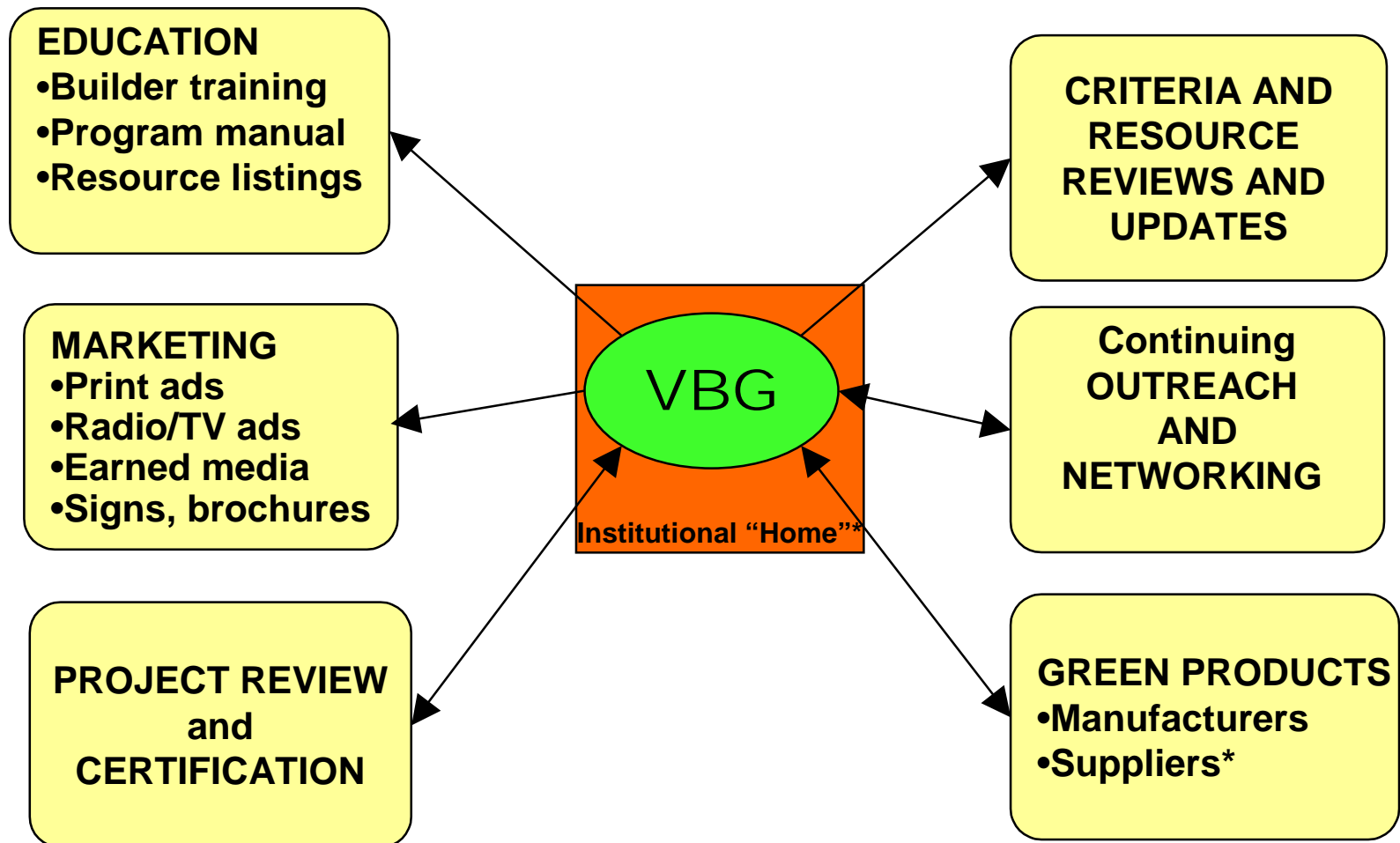
Phase II Goals : Ramping Up



- ✓ Create guidebook and worksheets
- ✓ Develop scoring software and website
- ✓ Establish program forms and procedures
- ✓ Develop builder/architect training materials
- ✓ Hire and train staff
- ✓ Develop ads and marketing materials
- ✓ Continued outreach



Phase III: Full Operation





The Future

- ✓ Secure funding to continue development
- ✓ Partner with others regionally & nationally
- ✓ Have LEED-R recognize and support VBG
- ✓ Find an institutional home (VEIC?)
- ✓ Build support and recognition for green building
- ✓ Move the market towards sustainable building
- ✓ An opportunity to further mainstream energy efficiency and HERS